

# A new species of *Thryptomene* Endl. and a new species of *Ochrosperma* Trudgen (Myrtaceae) from the Northern Territory, Australia

A.R.Bean

## Summary

Bean, A.R. (1997). A new species of *Thryptomene* Endl. and a new species of *Ochrosperma* Trudgen (Myrtaceae) from the Northern Territory, Australia. *Austrobaileya* 4(4): 647–651. *Thryptomene remota* A.R.Bean and *Ochrosperma sulcatum* A.R.Bean are described and illustrated. Notes on distribution, affinities and conservation status are given. A key to all species of *Ochrosperma* is included.

Keywords: taxonomy, Myrtaceae, *Thryptomene*, *Thryptomene remota*, *Ochrosperma*, *Ochrosperma sulcatum*, Northern Territory, Australia.

A.R.Bean, Queensland Herbarium, Meiers Road, Indooroopilly Queensland 4068, Australia

## Introduction

Numerous new plant taxa from the Kakadu National Park and adjacent areas of the Northern Territory have been discovered and named in recent years. Many of them are rare and apparently relictual in distribution. The species named in this paper, *Thryptomene remota* and *Ochrosperma sulcatum*, are two such species. *T. remota* was first collected in the 1960s and there have been many collections of it since, from a number of localities. In contrast, *O. sulcatum* was discovered by Kym Brennan of Jabiru in December 1990, and is currently known from just one small population.

*Thryptomene* is an endemic Australian genus established by Endlicher in 1838 with a single species, *T. australis* Endl. Numerous species belonging to it were named in the following decades, and Bentham (1867) recorded 17 species for Australia. A sectional classification of *Thryptomene* was provided by Stapf (1924). Green (1986) accepted 32 species for the genus.

The genus *Ochrosperma* was erected by Trudgen (1987) to accommodate some species previously included under *Baeckea* L. All previously described *Ochrosperma* species are from eastern Australia (Trudgen 1987, Bean 1995).

## Taxonomy

### 1. *Thryptomene remota* A.R.Bean sp. nov. affinis

*T. stenophyllae* autem in florescentiis pedunculatis, petalis cremeis albisve orbicularibus calycis lobis majoribus auriculatis, antheris poris dehiscentibus differt. **Typus:** Northern Territory. Top of Jim Jim Falls, 13°17'S 132°51'E, 29 January 1981, C.R. Dunlop 5642 (holo: BRI; iso: AD, CANB, DNA, MEL, NSW, PERTH).

*Baeckea* sp., Lazarides et al. (1988).

Erect shrub 0.3–3 m high, glabrous. Bark grey, rough, finely fibrous. Stem flanges grey, flat, not warty, not winged, with margins entire. Leaves opposite, spreading, linear to oblanceolate, 3.3–6.0 mm long, 0.7–1.0 mm wide, plano-convex, not keeled, with apex obtuse or with a tiny mucro; oil glands prominent, scattered; margins entire; petioles 0.5–0.8 mm long. Flowers 5-merous; peduncles 0.9–1.3 mm long, solitary, axillary. Bracts absent; bracteoles 2, persistent, cymbiform, 1.5–1.8 × 1.3–1.5 mm, connate at base, with thick central longitudinal ridge and thin transparent lateral zones, apex acute, margins entire. Floral hypanthium obconical, 0.9–1.2 mm long, muricate; calyx lobes 5, obtuse or sometimes mucronate, 0.9–1.0 × 1.4–1.5 mm, persistent in fruit, thick and opaque towards centre, thin and transparent near edges, with

small auricles extending below top of hypanthium, margins entire or minutely fimbriate. Petals 5, orbicular, 1.5–1.8 mm across, white or cream, folded back over top of ovary after anthesis; oil glands present; margins minutely fimbriate. Stamens 10, 1 opposite each calyx-lobe and petal; filaments terete, straight, 0.4–0.5 mm long; anthers versatile, dorsifixed, c. 0.15 mm long, bilocular, dehiscing by small pores; gland on the connective truncate or compressed-urceolate, compound, about as long as anther. Floral disc concave. Style terete, c. 0.5 mm long, c. 0.1 mm wide; stigma capitate, papillose. Ovary inferior, 1-locular, fused to hypanthium almost throughout; ovules 2, collateral, laterally attached to a small basal placenta. Fruit indehiscent, not expanded. Seeds not seen. **Fig. 1 F–J.**

**Specimens examined:** Northern Territory, Upper Magela Creek, Jul 1972, *Byrnes* 2700 (CANB, DNA, K); 10 miles [16 km] S of Yaimanyi Ck, Jun 1972, *Byrnes* 2689 (CANB, DNA, K, NSW); 42 km SE of Oenpelli, Jun 1978, *Latz* 7773 (CANB, DNA); 21 km N of Jim Jim Falls, near entrance to Deaf Adder Gorge, May 1980, *Lazarides* 9074 (CANB, DNA); 23.5 km WSW of Twin Falls, May 1980, *Craven* 6199 (CANB, DNA); 6 km ESE of Twin Falls, May 1980, *Craven* 5836 (CANB, DNA); Deaf Adder Gorge, Feb 1977, *Fox* 2501 (BRI, CANB, DNA, K, MEL, NE, NSW); Mt Gilruth, Mar 1984, *Craven & Wightman* 8328 (CANB, MEL); Kakadu N.P., Apr 1990, *Dunlop* 8597 & *Munns* (AD, CANB, DNA, MEL, NSW); Kakadu N.P., 14 km E of Sleisbeck, Apr 1990, *Leach* 2745 & *Cowie* (BRI, DNA, MEL, NSW, PERTH); Kakadu N.P., c. 4 km S of El Sharana, Apr 1990, *Slee & Craven* 2645 (CANB, MEL). Jim Jim Falls, Barrk Malam Walk, Dec 1989, *Forster* PIF6125 (BRI).

**Distribution and habitat:** *T. remota* is distributed in the Northern Territory, in the Kakadu National Park and adjacent areas of Arnhem Land to its east, between the latitudes 12° and 14°S. It inhabits shrubland or shrubby open woodland on sandstone rock pavements. It is associated with species such as *Eucalyptus phoenicea* F.Muell., *Pityrodia* spp., *Triodia microstachya* R.Br., *Micraira* spp., *Homalocalyx ericaeus* F.Muell. and *Calycopeplus collinus* P.I.Forst.

**Phenology:** Fertile specimens have been collected between November and July.

**Affinities:** *T. remota* belongs to *Thryptomene* sect. *Astraea* Stapf as defined by Stapf (1924) because of its flowers with 10 stamens, rugose

hypanthia and anthers dehiscing by pores or short slits. It is most closely related to *T. baeckeacea* F.Muell. and *T. stenophylla* E.Pritzel from south-western Western Australia. It differs from *T. baeckeacea* by its longer leaves which lack a keel, and the often fimbriate margins of the calyx lobes. *T. remota* differs from *T. stenophylla* by the pedunculate inflorescences, creamy or white orbicular petals, larger auriculate calyx lobes and anthers dehiscing by pores.

**Conservation status:** The risk category for *Thryptomene remota* according to the criteria of Chalson & Keith (1995) is 'low risk'. *T. remota* is reportedly common within its range which is partly within the Kakadu National Park.

**Etymology:** The specific epithet *remota* refers to the geographical remoteness of the new species from its nearest relatives in south-western Western Australia.

**2. *Ochrosperma sulcatum* A.R.Bean sp. nov.**  
affinis *O. lineari* autem foliis sessilibus longitudinaliter striatis, hypanthio ante anthesin dorsiventraliter compresso floribus sessilibus, calycis lobis rigidis acuminatis differt. **Typus:** Northern Territory, Hollow Rock, 17 km ENE of Jabiru airstrip, 12°37'S, 133°03'E, 26 November 1994, *K. Brennan* 2955 (holo: BRI; iso: DNA, K, MEL, NSW, PERTH distribuendi).

Shrub to 30 cm, glabrous, stems pendulous. Bark brown, flaky to papery. Stem flanges grey, not warty, not winged, margins entire. Leaves sessile, opposite, spreading, linear, 3.5–5.5 mm long, 0.4–0.5 mm wide, longitudinally striate, concavo-convex, usually somewhat curved over its length, oil glands very small and obscure, scattered; margins entire. Flowers 5-merous, sessile, axillary, solitary; flower buds completely enclosed by leafy bracts and bracteoles; bracts 2, persistent, pale green with white membranous margins, lanceolate, c. 2.5 × 0.6 mm, keeled, conduplicate; bracteoles 2, identical to bracts except slightly shorter. Floral hypanthium slightly dorsiventrally compressed, c. 1.5 mm long, irregularly ribbed; calyx-lobes 5, narrowly-triangular, 1.0–1.3 mm long, rigid, erect, acuminate, with shallow irregular lobes at base.

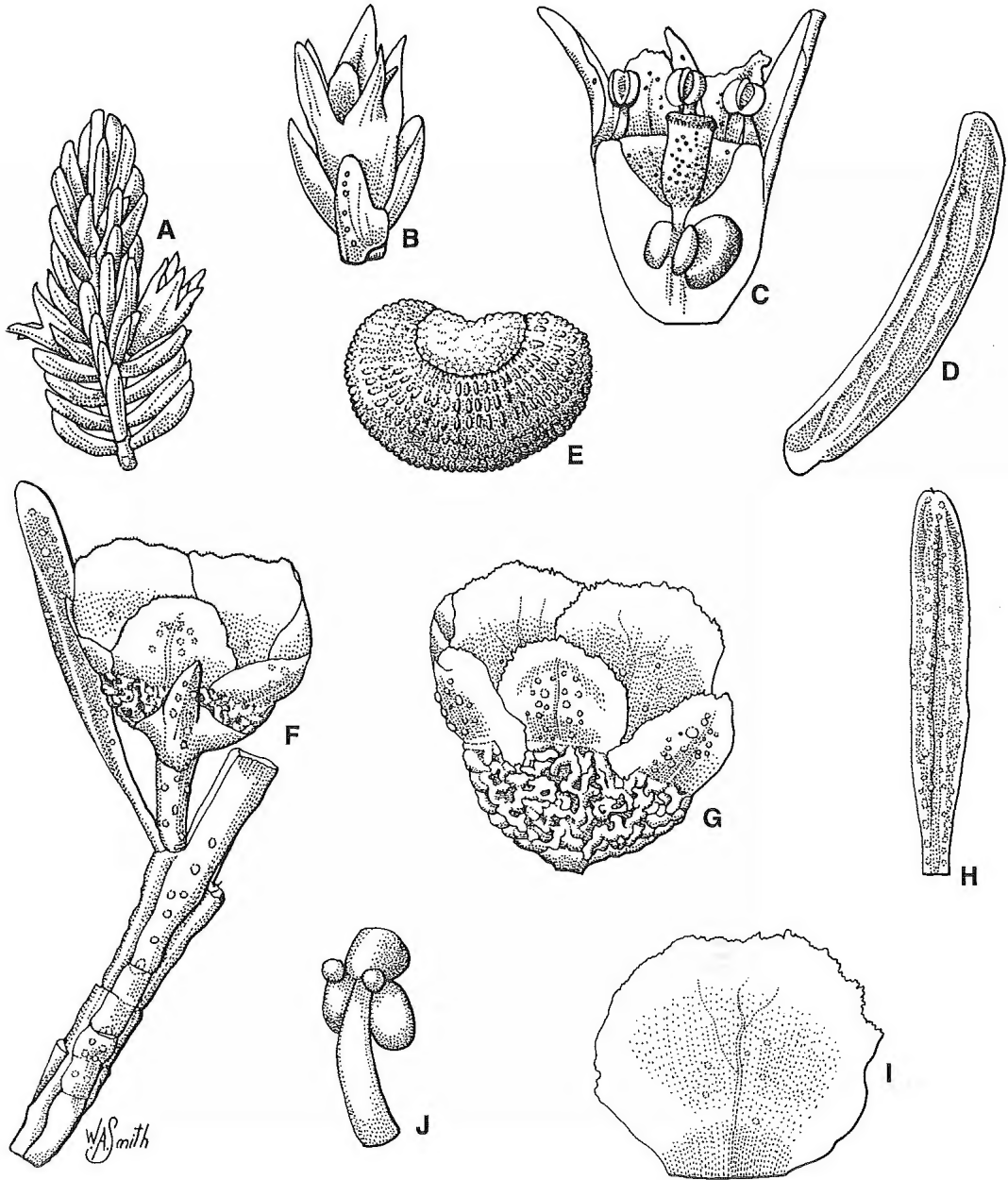


Fig. 1. A–E: *Ochrosperma sulcatum*. A. flowering branchlet  $\times 5$ . B. flower with bracts and bracteoles  $\times 10$ . C. transverse section of flower  $\times 15$ . D. leaf  $\times 15$ . E. seed  $\times 30$ . F–J: *Thryptomene remota*. F. branchlet showing axillary flower  $\times 10$ . G. lateral view of flower  $\times 15$ . H. leaf  $\times 5$ . I. petal  $\times 20$ . J. stamen  $\times 40$ . A–E, Brennan 2955; F–J, Forster PIF6125.

Petals 5, elliptical to orbicular, 0.9–1.0 × 0.6–0.9 mm, pale brown when dry, erect, not spreading, broad-based, oil glands visible, margins entire. Stamens 5, antesealous; filaments slightly flattened at base, straight, 0.5–0.6 mm long; anthers versatile, dorsifixed, c. 0.25 mm long, bilocular, dehiscent by longitudinal slits; gland on connective globular, simple, c. half length of anthers. Floral disc concave. Style cylindrical, not tapering, 0.8–1.0 mm long, 0.25–0.4 mm wide, inserted shortly into the ovary, not exceeding the calyx-lobes or stamens, flat-topped; stigma indistinguishable from style. Ovary inferior, 3-locular, fused to hypanthium throughout; ovules 2 per loculus, collateral. Fruit capsular, actinomorphic; hypanthium cylindrical, 1.8–2.0 mm long, 1.5–1.9 mm in diameter; surface smooth, grey. Calyx lobes erect, rigid, persistent, 1.0–1.4 mm long, acuminate, not keeled; fruiting valves small, inconspicuous. Seeds brown, turgid, reniform, c. 1.0 mm long, arillate; aril white, clasping hilar region; hilum in centre of concave side, testa crustaceous, shiny, tuberculate, with tubercles in longitudinal rows. Aborted ovules flattened, translucent, brown, not developing as chaff. **Fig. 1 A–E.**

**Additional specimen examined:** Northern Territory. 17 km ENE of Jabiru Airstrip, Dec 1991, Brennan 1655 (BRI, DNA, MEL, NSW).

**Distribution and habitat:** *O. sulcatum* is known only from the type locality east of Darwin in the Northern Territory. It grows on sandstone cliff-faces in association with *Mitrasacme geniculosa* Dunlop (K. Brennan, pers. comm.).

**Phenology:** Flowers and fruits have been recorded in November and December.

**Affinities:** This species is placed in *Ochrosperma* because of the 3-locular ovary, hypanthium adnate to the ovary almost throughout, arillate reniform seeds, 2 collateral ovules per loculus and 5 almost-terete antesealous stamens.

A closely related genus is *Rinzia* Schauer, which shares with this species the character of reniform, arillate ovules and seeds. Some species of *Rinzia* have 2 collateral ovules per loculus but all *Rinzia* species have 10 stamens

(one opposite each sepal and petal) with broad, flattened filaments. Most species of *Scholtzia* Schauer have 2 ovules per loculus, but they are superposed and are not reniform in shape; furthermore the inflorescence of *Scholtzia* is nearly always cymose (solitary and axillary in *Ochrosperma*). *Ochrosperma sulcatum* differs from all other species in *Ochrosperma* by its dorsiventrally flattened and wrinkled floral hypanthium, smooth cylindrical fruiting hypanthium, thick cylindrical style, rigid acuminate calyx-lobes, sessile flowers and erect petals which are shorter than the calyx-lobes.

**Conservation status:** The risk category for *Ochrosperma sulcatum*, according to the criteria of Chalson & Keith (1995) is 'critical' (criteria D and B2). 100–200 plants have been observed at the type locality, which is just outside the present eastern boundary of Kakadu National Park.

**Etymology:** The species epithet is derived from the Latin word *sulcatus*, meaning furrowed or grooved, in reference to the prominent striations on the leaves of this species.

**Note:** *O. sulcatum* conforms to all of the eight distinguishing characters for *Ochrosperma* listed by Trudgen (1987), except 'fruit opening very widely'. In *O. sulcatum*, the hypanthium retains its cylindrical shape even after the seeds are shed. This and the erect rigid calyx lobes and wrinkled floral hypanthium are very distinctive in *Ochrosperma*.

To the eight characters listed by Trudgen, I would add a ninth, namely 'foliar oil glands very small, obscure'. This character holds for all five species of *Ochrosperma*, and is in marked contrast to most or all other *Baeckea*-like plants from eastern Australia which have conspicuous oil glands, at least on the abaxial surface of the leaves.

**Key to the species of *Ochrosperma***

- 1. Leaves obovate or elliptical, 1.0–3 mm wide ..... 2  
    Leaves linear, 0.5–1.0 mm wide ..... 3
- 2. Leaves lemon-scented; petals 0.8–1.0 mm across ..... **O. citriodorum**  
    Leaves not lemon-scented; petals 1.8–2.2 mm across ..... **O. oligomerum**
- 3. Stamens 6–8 per flower; fruits 3.3–4.0 mm wide ..... **O. adpressum**  
    Stamens 5 per flower; fruits 1.5–2.7 mm wide ..... 4
- 4. Calyx lobes acuminate, rigid, 1.0–1.3 mm long ..... **O. sulcatum**  
    Calyx lobes obtuse, soft, 0.3–0.5 mm long ..... **O. lineare**

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